

**LISTING OF THE CLAIMS**

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1-39. (Canceled).

Claim 40 (Currently Amended): An optical recording method for recording mark length-modulated information with a plurality of recording mark lengths by irradiating a recording medium with a light, the optical recording method comprising the steps of:

when a time length of one recording mark is denoted  $nT$  ( $T$  is a reference clock period equal to or less than 25 ns, and  $n$  is a natural number equal to or more than 2),

dividing the time length of the recording mark  $nT$  into

$\eta_1 T, \alpha_1 T, \beta_1 T, \alpha_2 T, \beta_2 T, \dots, \alpha_i T, \beta_i T, \dots \alpha_m T, \beta_m T, \eta_2 T$

in that order ( $m$  is a pulse division number;  $\sum_i (\alpha_i + \beta_i) + \eta_1 + \eta_2 = n$ ;  $\alpha_i$  ( $1 \leq i \leq m$ ) is a real number larger than 0;  $\beta_i$  ( $(1 \leq i \leq m-1)$ ) is a real number larger than 0;  $\beta_m$  is a real number larger than or equal to 0; and  $\eta_1$  and  $\eta_2$  are real numbers between -2 and 2);

radiating recording light with a recording power  $Pw_i$  in a time duration of  $\alpha_i T$  ( $1 \leq i \leq m$ ); and

radiating recording light with a bias power  $Pb_i$  in a time duration of  $\beta_i T$  ( $1 \leq i \leq m-1$ ), the bias power being  $Pb_i < Pw_i$  and  $Pb_i < Pw_{i+1}$ ;

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wherein the pulse division number m is 2 or more for the time duration of at least one recording mark and meets  $n/m \geq 1.25$  for the time length of all the recording marks,

further wherein when the same pulse division number m is used on at least two recording marks with different n values, said at least two recording marks are formed by changing at least one of pulse time of  $(\alpha_1 + \beta_1)$ ,  $[(\alpha_2 + \beta)]$  ( $\underline{\alpha_2 + \beta_1}$ ),  $(\alpha_m + \beta_{m-1})$  and  $(\alpha_m + \beta_m)$  or changing one of duty ratio of  $(\alpha_i/(\alpha_i + \beta_i))$  and  $(\alpha_i/(\alpha_i + \beta_{i-1}))$ .

**Claim 41 (Previously Presented):** An optical recording method according to Claim 40, wherein when the same pulse division number m is used on two recording marks of which length difference is 1T, said two recording marks are formed by changing at least two of  $\alpha_1, \beta_1, \alpha_2, \beta_{m-1}, \alpha_m$ , and  $\beta_m$

**Claim 42 (Previously Presented):** An optical recording method according to Claim 41, wherein said two recording marks are formed by changing at least one of  $\beta_1, \beta_{m-1}$ , and  $\beta_m$ .

**Claim 43 (Previously Presented):** An optical recording method according to Claim 40, wherein  $Pw_i$  and  $Pb_i$  are represented by  $Pw$  and  $Pb$  respectively for all the value n and the value i where  $i$  is  $1 \leq i \leq m$ .

**Claim 44 (Previously Presented):** An optical recording method according to Claim 40, wherein  $\alpha_i + \beta_i$  ( $2 \leq i \leq m-1$ ) or  $\beta_{i-1} + \alpha_i$  ( $2 \leq i \leq m-1$ ) is a constant value independently of said real number i.

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Claim 45 (Previously Presented): An optical recording method according to Claim 44, wherein  $\alpha_i + \beta_i$  ( $2 \leq i \leq m-1$ ) or  $\beta_{i-1} + \alpha_i$  ( $2 \leq i \leq m-1$ ) is 2 independently of said real number i.

Claim 46 (Previously Presented): An optical recording method according to Claim 40, wherein  $\alpha_i$  is kept almost constant as a constant value  $\alpha_C$  where said i is ( $2 \leq i \leq m-1$ ).

Claim 47 (Previously Presented): An optical recording method according to Claim 40, wherein  $\alpha_i$  ( $2 \leq i \leq m-1$ ) is kept almost constant for the recording marks with the pulse division number of not less than 3.

Claim 48 (Previously Presented): An optical recording method according to Claim 40, wherein when performing a mark length modulation scheme recording on the same recording medium by using a plurality of linear velocities v while keeping  $v \times T$  constant,

for m equal to or greater than 2,  $(\alpha_i + \beta_i)$  in  $2 \leq i \leq m-1$  is kept constant independently of the linear velocity,  $Pw_i$ ,  $Pb_i$  and  $Pe$  in each i are kept almost constant independently of the linear velocity, and  $\alpha_i$  ( $2 \leq i \leq m-1$ ) is decreased as the linear velocity lowers.

Claim 49 (Previously Presented): An optical recording method according to Claim 40, wherein when performing a mark length modulation scheme recording on the same recording medium by using a plurality of linear velocities v while keeping  $v \times T$  constant,

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for m equal to or greater than 2,  $(\beta_{i-1} + \alpha_i)$  in  $2 \leq i \leq m$  are kept constant independently of the linear velocity,  $Pw_i$ ,  $Pb_i$  and  $Pe$  in each  $i$  are kept almost constant independently of the linear velocity, and  $\alpha_i$  ( $2 \leq i \leq m$ ) are decreased as the linear velocity lowers.

Claim 50 (Currently Amended): An optical recording method according to Claims 48 or 49, wherein  $[\alpha_{iT}] \underline{\alpha_i T}$  ( $2 \leq i \leq m-1$ ) are kept almost constant independently of the linear velocity.

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